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Some Parturition Problems.*

BY E. P. EDWARDS, M.R.C.V.S., Mold, Flint.

Mr. President and Gentlemen,

When I fell a victim to the persuasive eloquence of our President, and promised to give a paper here to-day, it was partly because I felt that, in the past I had not done my share in the work of the Society, and should try and soothe my uneasy conscience. The choice of the subject was approved by your Committee, and in the first instance was made by me, not because I hope to say anything new, but because there is, I think, none of so perennial, not to say poignant, interest to the country practitioner. Upon his efficiency in parturition cases and their sequelæ his reputation as a practitioner probably depends more than upon his aptitude in dealing with any other class of case. To the ordinary farmer these cases offer a ready test of the practitioner's skill, patience, common sense, resource under varying circumstances, and, last, but not least, his willingness, or the reverse, to undertake work of the dirtiest, most dangerous and most strenuous type which his profession calls upon him to perform.

The field is a vast one, but I shall confine my remarks to a few of what, I think, are the most difficult presentations, and the rest of the paper will be devoted to some general considerations of procedure, and to some sequelæ of parturition.

FORCED EXTRACTION.

First of all, I should like to mention, and to ask from you an expression of your opinion upon, the so-called "method of forced extraction," which has been recently advocated in the mare, both in America and this country, in relation to two presentations:—(*a*) the breech; (*b*) both fore-legs presented, head back. Put shortly, in the breech presentation, the method is to pass ropes around the thighs of the fœtus, or, if that is not possible, around the hocks, attach the ropes to pulley blocks, and draw the foal forcibly away. In the other, ropes are placed on the fore-legs above the fetlock, or traction exerted in the same way. I have no doubt you read the details described by Mr. Caulton Reeks in the *Record* early in the year, and I should like part of the discussion to be on these methods and their results.

I have known cows deliver their own calves, or with very little help, in both presentations, but they have been exceptionally small calves in roomy cows, or cases of premature birth, with efficient preparation in roomy animals. Taken, however, in the mare or cow at full time, as an obstetrical procedure, the method of forced extraction strikes me as being so unsurgical, not to say barbarous, and to reveal such a paucity of surgical resource as to justify the layman in ranking us with the empiric.

Yet it is stated by a responsible and experienced veterinary surgeon to bring about the desired result, quickly and with comparatively little trouble—not without some risk, it is admitted, and as one would naturally surmise. But what I want to ask is, are we justified in taking these risks when other and surgical methods are available, and, if we are to simplify our obstetric outfit by relying upon ropes and a set of pulleys, what will the public think of our surgical skill and resources? I am not only quite open to be convinced, but should be only too glad to be convinced that "forced extraction" is justifiable in these cases, and I can quite see myself giving it a trial, as a last resort, in the presentation with head back, though in the breech I should hesitate still more. However, I may be old fashioned, and in any case the method is sufficiently novel and startling to rouse keen discussion. This will go on to the question of how much traction should be applied to a fœtus before taking other measures. Personally, I very rarely allow more than four men, and generally only three, to exercise their full power. Of course, one must watch, and size up the men, more prolific of grunts, when pulling, than of foot-pounds, and who seem to lack the power to convert muscular development into dynamic energy—the flesh may be willing, but the spirit behind it is weak. But, discounting these human factors, I reckon four men as a limit, without risks, and I have never used pulley blocks. May I here point out that in several presentations, such as normal presentation (but difficult when the fœtal pelvis is in the maternal pelvis), or where there is extreme dryness of fœtus and uterus, a very good plan is to combine traction with rotation.

For example, one has a fœtus three parts out, but "sticking at the hips," as the farmer says. I pass a rope around the entire body of the fœtus, as near the vulva as possible, and inside this pass a long stack peg or blunt hook shaft. Traction is applied, the operator rotates the fœtus alternately to right and left, and this has the effect of converting a direct traction into a corkscrew motion, and the fœtus is, so to speak, "wriggled out."

*Presented to the North Wales Veterinary Association.

The Breech Presentation.

This is a very usual one, and, curiously enough, in my practice this season has been exceedingly common.

In my experience, it is one of the simplest of all the presentations to deal with, and yet, if judgment is not used as to whether the legs can be got up into the passage safely or not, danger of ruptured uterus may follow.

Is there any presentation in which as frequently the local handy-man produces a ruptured uterus by his efforts as in the breech? It seems so easy, very often, to rotate and draw the leg up into the passage, but just that extra inch of room, or that inopportune strain, and the damage is done.

One wants to give the farmer a live calf, of course, but not for a moment should this weigh against leaving a live mother, and personally, in many cases, I prefer the alternative embryotomy to the risk.

Reading several authors, this operation seems to be regarded as a formidable one, especially in the mare. In the cow I consider it one of the easiest, but I have known men fail to accomplish it, because they could not sever or break down the ligamentum teres, and so detach the head of the femur from the acetabulum. Even so great an authority as Professor W. L. Williams, of Cornell University, says, "It must be extremely difficult to disarticulate such a joint as this while the fœtus is confined in the uterus, and the limb is virtually immovable."

I do not know whether you agree with this dictum, gentlemen, but I certainly do not, and in my opinion removal of a hind leg in either the mare or cow in the breech is comparatively easy. The crux of the problem, of course, is the detachment of the head of the femur from the acetabulum, and the rest of the operation needs, I presume, no description to you, therefore it is with respect to this point only that I desire to speak.

Having cut through the capsular, the cotyloid, the transverse, and in the foal the pubio-femoral ligaments, there is sufficient extra freedom of movement of the head of the femur to allow a properly-shaped blunt hook to be passed around the head of that bone. This I do with the instrument shaped like a miniature shepherd's crook, which I have here, keeping my hand on the hook to ensure its fixity, whilst an assistant rotates on the long axis, and the ligament is quite easily broken down. If one is removing the off-hind leg, the rotation of the hook should be from left to right, and *vice versa* with the near leg. During the rotation, especially if it is a particularly strong fœtus, the assistant should exert at the same moment a certain degree of backward traction. When freed from the joint, a rope should be placed on the head of the femur, traction exerted, and the skin and muscles severed longitudinally as they appear through the vulva. A little trouble occurs with the patella, but the easiest plan is to make a circular cut around it, and the same applies to the os calcis, but this is easy in both cases, as it is done externally, and once you get going outside the vulva, it is like skinning a rabbit.

Professor Williams, from whose book I have just read a quotation on this presentation, describes an elaborate embryotomy, in which the chisel is used to cut through the floor of the pelvis and the shaft of the ileum, and he calls it the intra-pelvic amputation, as the instruments are introduced by cutting down through the anus and vagina into the abdominal cavity. This operation effects removal of the hind leg, plus half the pelvis, and is advised (1) because it is performed inside the fœtus, and is therefore less likely to set up septic infection of the mare; (2) because any other amputation is considered impracticable.

I dispute both of these propositions most strenuously. The first because, after cutting through the bones, it is obvious that the gluteal muscles, and all those connecting the hind leg with the pelvis and the vertebral column, must be severed, and I can hardly think this possible without cutting the skin. Moreover, as the abdominal cavity is opened into, surely access to fœcal contamination is possible, and most probable. The second I dispute because I have done the operation I describe several times in the mare, and scores of times in the cow. However, I consider the amputation at the hip joint not only much simpler, quicker and easier, but also far less likely to lead to septic infection. Indeed, in the mare or cow, this embryotomy is one of the least likely to lead to uterine infection, because in most breech presentations the femoral joint of the fœtus is situated in the posterior end of the uterus—almost in the vagina—and once the femoral head is detached, roped and traction applied, the rest of the operation is done "extra vulva."

I do not know whether I have taken up too much time with this breech embryotomy, but I have gone into details for the reason that many authors, like Professor Williams, seem to consider it so formidable, and also because "forced traction," when advocated as an alternative procedure, seems to suggest it to be a bogey to be avoided at all costs and all risks.

Sternum only Presented.

This is very rare, but occurs in the cow, and there are two ways of dealing with it if there is no room to convert it into a normal presentation by retroversion of the limbs and head.

The easiest procedure, if the base of the neck can be reached, is to sever the vertebral column with the chisel, because, after removal of the head and neck, the legs can usually be brought into position.

If this cannot be done, and removal of a leg is necessary, it must be done by cutting down on to, and skinning, the scapula, roping this, and by traction and the embryotomy knife effecting a backward amputation as in the breech.

Both Fore-Legs, But no Head.

Many of these presentations are simple, but, in the mare, many are formidable cases on account of the length of the neck, and the difficulty of reaching the mouth or the eye socket to effect traction by cord or hook, and for lack of room to turn the head,

even when secured. If, from lack of length of arm or statutory inches in general (and long and lean as I myself am, I confess I often, like Oliver Twist, long for more), the mouth or eye cannot be reached.

I practise what I call the "Creeping Method." With the knife I make a small transverse incision in the skin of the neck, as high up as I can reach. Into this I firmly fix a blunt corded hook.

An assistant exercises traction on this, so bringing a higher point of the neck nearer to me, and keeping it there whilst I make another transverse incision, into which another blunt corded hook is placed, and the first one removed. If traction on this does not enable me to reach the mouth or eye, I repeat this "creeping method" until it is either accomplished or proved impossible.

I should like to mention here that many years ago, after removing both fore-legs of a foal, I was unable to reach the head of the fœtus until I threw the mare down and put her on her back. In this case the head was doubled underneath the ventral aspect of the body, and was comparatively easily reached when the mare was placed on her back.

The alternatives appear to be removal of a fore-leg, or amputation of the neck, and backward removal of the head and neck. In the past I have always removed a fore-leg, but since my introduction to the obstetric chisel, I shall, after my experience of its value recently, always try it as the more rapid, safe, and more efficient operation.

I am indebted to Mr. Cartwright for my introduction to this instrument, as he was kind enough to show me this one purchased in America. I wrote to Arnolds', but they had none for sale, and I therefore sent them designs and details, and, after several modifications, the instrument which I have here was produced.

The obstetric chisel is certainly, to my mind, a very valuable instrument in certain cases. In July last I used it for the first time in a cow with the presentation of "head back." By the creeping method just spoken of, or by removal of a fore-leg, delivery could have been effected, but like a child with a new toy, I determined to put my latest tool to the test.

I located a spot on the neck as low down as possible, incised the skin with a knife, and introduced the chisel, guarded in the palm of the hand. I enquired the time before the first blows were struck with a mallet, and in ten minutes had severed the vertebræ with great ease and safety, and in another quarter of an hour I had the head and neck out, and delivery quickly followed.

It is important when using the chisel to rotate it occasionally in both directions after driving it a little way into the bones, as this breaks them up more easily. The driving in and the rotation are done by an assistant, as the operator is occupied in guarding the blade with the left hand, and steadying the shaft with the right.

I do not know enough about metals to venture an opinion, but I think that, if this instrument can be made of aluminium, as far as the shaft is concerned, and if the chisel end can be so devised as to enable easily replaceable steel chisel blades to be used, it would be a great improvement, as the present instrument is rather heavy to use, and the cutting edge may become blunted.

All Four Legs—No Head.

This presentation I shall speak of most particularly in the mare only, for, although it occurs, it is not so formidable in the cow.

The first question which arises is whether delivery can be effected by the hind-legs and repulsion of the fore. Naturally all cases differ; it is a question of room, the behaviour of the mare, size of foal, etc.

In my experience it has always been hopeless to effect repulsion of the hind-legs, bring the head into the passage, and effect a normal presentation.

With respect to the safe repulsion of the fore-legs, I can only say that I have done it on three occasions (twice in the same mare, curiously enough) with complete success.

It is entirely a question of judgment as to the prospects without undue danger, and I think the following rules useful in forming a judgment:—

(1) Ascertain which side of the uterus the head and neck lie, for naturally the repulsion of the fore-legs must be made to follow the curve of the neck.

(2) Try repulsion of the fore-leg lying uppermost, and if it is impossible to push this back until the knee is fully flexed, this method of delivery should be abandoned and embryotomy begun.

If the knee can be fully flexed, the elbow joint can usually be reached, and if so, the triceps muscles and ligaments should be divided, so as to increase the mobility of the fore-legs.

Having decided on traction, and repulsed both fore-legs as far as possible, the operator should keep his hands on the fore-legs, and very gradual traction be allowed. It is left to his judgment, then, as to whether there is room for the turn to be made, but if he feels the knees coming back to him, traction should be stopped at once.

The further measures vary greatly—in some, removal of both fore-legs at the knee is sufficient, but I prefer removal at the elbow.

In some cases the hind-legs are so far back as to make it difficult to carry out the work on the fore-legs, and in these cases the hind-legs or legs should be removed at the tarso-metatarsal joint.

It greatly facilitates this being done if the tendo Achilles can be severed, as the hind-leg can be then drawn nearer the operator.

The skin having been cut through all round, and the tarso-metatarsal joints opened, removal is effected by rotation, traction, and the knife, and a rope is passed around the os calcis for future use.

In all cases where parts of a limb are removed at a joint, the severed ends of the bones are apt to be rough and dangerous, and are often in a difficult position to suture the skin over them.

A very good plan, I find, is to cut a small piece of an old motor tube, pass it over the severed end,

leaving a flap to overlap the rough bones, and secure the traction rope over the other end of the tubing, the overlap providing a flexible and effective protection to the uterine wall.

In some cases it may be possible to reach the scapula of a fore-leg and remove this leg entire, and this generally gives sufficient room for repulsion of the other fore-leg.

In all cases the great object is to reduce the size of the fœtus, and in the past I have devoted my energies to accomplishing this by operation on the limbs.

With the advent of the chisel, however, I think that, where I have the ill luck to meet with this presentation again, and if the neck can be reached, I will attack this, for it is plain that if the head and neck can be removed the rest is easy.

In any case, I consider the chisel by far the best instrument for removal at the hock or elbow, and a great boon in this presentation.

The gigli or van wire saws are recommended for such work, but I have found them disappointing.

Here is a gigli, and I found that the wire broke in experimenting on the fore-leg of a dead dog, so it seems evident how it would fare with a foal's hock.

I possess a Pflanz Embryotome, but confess I have never been bold enough to use this most powerful instrument inside the uterus, and I should be most interested to learn, if any of you have so used it, what has been your experience.

I will only speak of one more presentation, and that, in my opinion, one of the most difficult with which to deal, namely, a perfectly normal one, but with the fœtus too large for the passage.

Cases occur where a very young and small heifer has been accidentally bulled, and the fœtus entirely fills the uterus, so that it is almost impossible to introduce the hand with a knife on it. In these cases a piece-meal embryotomy is the only resource. I had a case of this kind last year, and have had several others of the same character.

In this case removal of both fore-legs and head, evisceration of the trunk, and later cross section of it, followed by getting up one hind-leg and removing it, left me powerless to extract the pelvis and the other hind-leg by traction.

I then removed the other hind-leg, and the last piece extracted was practically only the pelvis, and even that was a tight fit. The case took over six hours, and to my astonishment the heifer, a poor and weakly creature, which had so very generously nourished her would-be offspring, made a good recovery.

The same difficulty in a normal presentation arises from decomposition and emphysema of the fœtus, and, dependent upon the extent of the emphysema and enlargement of the fœtus, a very strenuous case must be faced.

Traction forces the gases in the areolar and other tissues in the abdominal cavity backwards, offering an increasing opposition the more it is exerted.

If slashing of the skin, evisceration, and profuse lubrication of the fœtus and uterine surfaces, do not overcome the difficulty, a piece-meal embryotomy must be done, but there is this saving grace, that the more decomposed the fœtus, the easier the embryotomy is, although the more unsavoury.

Impervious Os in Pregnant Heifer.

In May last I attended a roan heifer due to calve, which had been straining violently for hours with no result.

I found a complete fibrous wall across the anterior end of the vaginal cavity. It was pretty tough, but I forced my fingers through it, and tore it down, until I could reach a partly opened os, and a deluge of fluids escaped. The presentation was normal, but the fibrous adhesions were tough at the edges, and I contented myself by roping both fore-legs and the jaw, and left the cow, with instructions that two men were just to hang on to the ropes, but by no means to exert active traction, the idea being to produce gradual dilation.

In about 2½ hours the cow was delivered and did well. I mention this case because I think it is rare, in cases of white heifer disease, for conception to take place at all, and because of the very strong adhesions, which must have had their chief development after service by the bull, for I cannot imagine penetration by the male through the barrier which I had to break down.

Eversion of Uterus in Mare.

I do not intend to discuss this condition in general, as the methods of dealing with it are hackneyed, but I would express the opinion that where practicable chloroform should be given.

I want however, to speak of a case I had this spring, for other reasons.

We all know how much a cow's uterus will stand, and must have marvelled as to how well cows so often do, after the uterus has wallowed in filth and been mauled about for hours, but I think we all expect fatal results from very little of such treatment in the mare. The cart mare in question was a primipara foaled about three hours before I arrived to find her down in a dirty stable, struggling on the floor with her womb behind her, which was spouting blood profusely from two torn places on its surface. From the blood-smeared walls it was evident the mare had rubbed the bleeding mass against them, and in every way the case looked a forlorn hope.

When approached, the mare lurched to her feet, and nearly fell, and it was evident she was very faint from loss of blood, had a feeble pulse, and blanched membranes, but she managed to stand with support. I put several stitches in the torn places, and eventually stopped the hæmorrhage, washed the uterus, which was now on a blanket covered board, as thoroughly as I could, and began reduction.

To my surprise there was not the slightest difficulty, the organ remaining perfectly flaccid, no sign of even a mild straining effort being made, so that in a very

few minutes it was returned. I then sponged and swabbed it out with a clean sponge, introduced several antiseptic pessaries, sutured the vulva, gave a stimulant, and placed her in a position with the hind end raised for two hours. She made an uneventful recovery.

The absence of straining was, I presume, due to uterine paralysis and general exhaustion, due to the hæmorrhage.

The case is cited here because it appears to me to show that the mare's womb will stand a great deal more physical abuse and exposure to infection than I, at any rate, have been accustomed to believe; and this has, I think, a bearing upon our prognosis of a long embryotomy in the mare, in a connection to which I shall refer later.

Phantom Pregnancy in Mare.

I have several times seen this interesting nervous condition in the bitch, and described a case in a Great Dane in the *Record* some 15 years ago, but I do not remember it ever been described in the mare.

With your permission, I will tell of this case as a story, for its technical details are enshrined and enbalmed to me in a rich atmosphere of humour.

Some years ago a half-legged mare was brought to me by an old lady, well known as a quaint old character, and who drove her twice a week to town in a carrier's cart. I was asked to say whether the mare was in foal or not, and told that she was in a fortnight of her time. The appearance of the mare, which had foaled twice previously, gave every indication of pregnancy, and I told the old lady I thought she was in foal. Three weeks later the owner came again, and now the mare had milk in the udder, œdema under the abdomen, flaccid vagina, and every indication of approaching foaling. The old lady was, however, entirely sceptical, because, as she said, she had never seen the foal "wick" and also the mare, instead of being "heavy and doesome," as at other pregnancies, was very excitable and nervous on the road.

I told her I could tell with certainty by a rectal examination, and made one, only to find there was no foal there, but the uterus felt like a balloon.

Convinced I had a phantom pregnancy, I tried to explain to the old lady what that was, and as I went on I saw an expression come into her wrinkled old face, as if she were puzzling as to whether I, or the mare, were the greater curiosity.

She made me write the word "Phantom" down, to "show her old man," she said, and departed, greatly marvelling and mumbling to herself as she shook her grey head.

I heard nothing more for three weeks, until one Saturday morning I overtook her at the top of a steep hill, driving a load of women to market. The old lady sat on the front of her market cart, one foot on the shaft, and her whip in her right hand, as I walked my mare alongside of her for a few yards. "Morning, Mr. Edwards," she said, and then with her whip she pointed to the old mare, and with a great chuckle in her voice she said, "She hasna gotten rid o' that ghost yet, look ye."

I followed the case for weeks. The mare had not been at grass during the summer, and the signs of pregnancy only gradually subsided, milk being present in the udder and the abdomen pendulous, for several weeks later.

Two years after she foaled again, and then the old lady went, I am convinced, to a happier hunting ground; but, alas, her faithful friend was sold to the Ishmaelites, and I lost sight of her.

I now come to some general observations as to the conduct of parturition cases, and they refer more particularly to equipment, and to precautions against sepsis, during and after completion of delivery.

I have spoken of the chisel as being, to me, a revelation as a cutting instrument for bone, but unquestionably the most important instrument of all is the embryotomy knife.

I have taken the liberty of bringing the ones I use, because I think the same knife, as turned out by the makers, is useless for any long embryotomy, and as likely to cut off the operator's fingers as assist him in his job, because of the thin metal of which the rings are made.

These are the ordinary hook knives of Arnolds', with the hook modified by wear and grinding, and fixed by a blacksmith to a mount made to fit my index and second fingers, and I find it gives enormous cutting power without injuring my finger joints in a long case.

A set of porte bands, several blunt-pointed solid hooks (not jointed hooks), 2 or 3 blunt roped hooks, a Hauptner Obstetric Spatula, and plenty of ropes having a prepared spliced eye, complete my surgical outfit. I never use a farmyard rope, and insist on the cleanest bucket possible—the milk pail for preference.

It is common knowledge that the mare is very susceptible to septic laminitis, peritonitis, or septic metritis as a sequel, but of late years I have wondered whether some of my ill-results have not been due to insufficient antiseptic precautions when starting a case, and during its progress.

Bound up with this point is another which I think of great importance, and that is, efficient lubrication of the hands and arms and of the vagina during a long case.

The uterus of the mare soon becomes devoid of the natural fluids, owing to her violent straining, and the constant introduction of the operator's hands into the vagina chafes and roughens its walls, and it is a conviction of mine that infection is often started here during the progress of a long case. At any rate, it behoves us quite as much to create aseptic conditions for our work during its progress as after the work is finished.

After a bad and prolonged embryotomy, you are generally so "done up and fed up" that you are apt to "pack up your troubles in your old kit bag" and rather scamp those very important after-measures of swabbing out the womb with clean sponges, leaving no blood clot or any fluid at all in it, and putting in antiseptic pessaries, etc. But I also think that the

earlier precautions against vaginal friction and infection, from the beginning of the case, are of equal importance.

It is all very well to have a successful embryotomy or manipulative success, to work hard for several hours and deliver your patient, and take all antiseptic precautions at the end of the case, but how galling is the thought, if she dies of sepsis afterwards, that it must have been contracted whilst you were slaving hard to save her life.

As a lubricant, I have tried, and found wanting, various oils, goose-grease, lard, bacon fat, linseed jelly, vaseline, etc., and I think all fatty substances are of little lasting value, and should be ruled out of court. They do not mix with, but split up into floating globules in the watery uterine fluids, so that their lubricant value is quickly dissipated.

I find soap the best of all, but as at farm houses there are soaps and soaps, and as all soaps in the solid form are tedious to use, and many of them are too caustic and irritant in character, I have had a special soap paste made for me, which I should like to introduce to your notice, for lubricating purposes, and when combined with an antiseptic, for the double purpose.

Here is a sample of it—its uses are many, and I can confidently recommend it as being entirely unirritating, of the most durable lubricant quality, comparatively inexpensive, and last, but not least, effective.

It is made of the finest spirit soap with certain combinations which greatly increase its lathering or frothing power, and therefore its lubricant quality. Being non-oily, it mixes perfectly with watery fluids, and distributes itself; the more it is rubbed in or split, the more it froths, like a good shaving soap, lessening friction, and imparting its lubricant quality to a dry, clinging fœtal skin, or the operator's arm, in a marked degree.

For purely lubricant purposes, it is used plain, but to combine both purposes, I start off at a foaling or calving case by smearing the vagina and available uterine space with this soap basis, to which is added 6 drachms of iodoform to the pound, and I use this combined soap for lubricating my arms exclusively throughout the case. This may seem extravagant, and expensive, but to my mind it is a case of "damn the expense," where a mare's or cow's life may be endangered, and there is an old adage that what one "loses on the swings can always be gained on the roundabouts."

At any rate, if one carries out, from the start to the finish of a case, an anti-friction and antiseptic method such as I here briefly indicate, even if the patient dies of sepsis, one will have some solace at the thought that one has at least deserved success.

A further point with respect to antiseptic measures after obstretrical cases. In these days I presume we all use pessaries of one sort or another. You, Mr. President, made some remarks at our last meeting on this matter, and connected my name with it. I plead guilty to having first suggested antiseptics in solid form as against fluid antiseptic injections into the uterus, and the first pessary I had made had coca butter as a basis.

It does not need much imagination to conceive the coca butter pessary with its contained antiseptic floating on the surface of the watery and septic uterine contents, thus discounting very greatly its antiseptic value, and I quickly discarded it.

The base of an efficient pessary must, to my mind, be perfectly miscible with watery fluids, and although gelatine in one form or another is superior to any fatty substance, I think there is a better base than either to be found in soda.

I have for some time been experimenting on this subject, and, at my suggestion, Messrs. Wyleys, of Coventry, have produced a pessary made with the same soap basis as I have already described as used for lubricating purposes, but, of course, rendered solid by evaporation.

Any fancied antiseptic can be combined with it, but the one which I have here as a sample of what I use contains 2 drachms of iodoform.

The special virtues I claim for it are that, owing to the high frothing and lathering qualities of the non-irritant soap base, and because soap is perfectly miscible with the uterine fluids, the contained antiseptic is split up into the finest particles in the soap lather, and therefore distributed as perfectly as possible to all quarters of the uterine cavity, and it is evident that the more perfect the distributive qualities of the pessary are the more efficient it is.

For use whenever a pessary is necessary, and as an antiseptic soap for the operator's hands before or after an operation, it is of value, and if you have mislaid your shaving stick, you will find the plain soap paste quite a good substitute.

Gentlemen, the subject of "Parturition Problems" is practically inexhaustible, and I have already kept you too long.

I trust you will enter into a lively and critical discussion. If you differ with me on any point, you need not, as far as I am concerned, be diffident about slashing into me. The more you criticise me, the more likely I am to learn something, and that, I take it, is what we are all here for, and the more I shall like it.

The discussion on the paper was adjourned until the next meeting of the Association.

Control of the Tuberculin Test.

County Council's Approval.

Through the efforts of the National Veterinary Association, the control of the tuberculin test in order to obtain a milk supply free from tubercle bacilli, is, says the *Newcastle Daily Journal*, being brought before local authorities throughout the country.

Mr. C. Elphick, the Northumberland County Veterinary Inspector, who is a member of the Council of the National Veterinary Association, prepared a report for the Northumberland County Council, which was approved at a meeting in Newcastle.

The question emanated originally from the North of England Veterinary Medical Association. Mr. Elphick submitted the reasons calling for the control

of tuberculin, and quoted eminent authorities, showing it was an accepted fact that tuberculin, properly used and applied under ideal conditions, was a most reliable agent in the diagnosis of tuberculosis in the bovine.

"It appears," says Mr. Elphick, "that the undoubted efficiency of the test can be with certainty neutralised by the indiscriminate use of tuberculin, and this circumstance is certainly taken advantage of by the unscrupulous in defeating the test. At the moment there are no means of controlling and localising reactors; the owner can test any or all of his cattle and use his discretion as to the disposal of reactors; and, as a result, they are disseminated broadcast, so adding insuperable difficulties to public authorities in obtaining a milk supply free from tubercle bacilli, which is certainly the main object of the Milk and Dairies (Amendment) Act, 1922.

"That this uncontrolled use of tuberculin is realised and its effects understood by the pedigree breeder, is only too apparent. They put little or no reliance upon an animal exposed for sale even with the 'clean' ticket, and the experience of the foreign buyer of pedigree cattle is, unfortunately, common knowledge. He secures a 'passed' animal, but on re-test at the port of debarkation the animal reacts. So often has this been experienced that a great amount of confidence in the British pedigree market has been lost, and values affected as a consequence."

Government Protection.

The veterinary profession are unanimous in their request for control, and the medical authorities, too, did not lose sight of the advantages which would follow such control.

Dr. Scurfield, M.D., D.P.H. (Camb.), writing in the Journal of State Medicine this month (vol. xxxi.), says:—"In Denmark the tuberculin test is more or less under Government protection. Until it is so in this country, I have my doubts as to whether it will be possible to have much development of the scheme for obtaining tubercle-free herds."

In circular 335, issued by the Ministry of Health, dealing with the thirteen sections of the Milk and Dairies (Amendment) Act, 1922, it clearly states:—"It seems to the Minister that by the careful and systematic exercise of existing powers, together with the additional powers conferred under the new Act, local authorities should be able to take all necessary steps for the protection of the milk supply from contamination."

"We, as veterinarians," says Mr. Elphick, "consider that this statement is correct in so far as it goes, but that complete and assured protection cannot be attained, as the lack of control of tuberculin will in three ways act adversely to the working of the Act: (1) It will militate against the smooth working of the particular and important Section V.; (2) a pure milk supply will be gravely interfered with; and (3) the recognition, control, and elimination of animals giving tubercular milk will be rendered practically null and void.

"Glanders, a disease communicable to man, is practically eradicated from this country. The Ministry's circular letter of January 4th, 1923, issued to local authorities, states that during the year 1922 only four outbreaks were notified, implicating four animals. This satisfactory position is certainly due to the controlled value of the diagnostic agent mallein, which, under the Coal Mines Act (Third Schedule), can only be procured from one source. It has to be used in a specific manner, and the detailed result given upon a special form of certificate supplied only through the Ministry.

"The advantages following the control of tuberculin are, therefore, obvious. The breeder will be reassured in his honest endeavour to procure clean pedigree cattle, not only for his own benefit, but also for the benefit of the prospective purchasers.

"The foreign buying agent will regain his confidence in an animal exposed with a 'clean' certificate, and this will certainly increase the demand for and enhance the value of British pedigree stock.

"The public, too, will realise that no stone is being left unturned in protecting their interests and the general health of the community.

"The controlling of reactors, and especially those which come under the fifth section of the Act, will be greatly facilitated, more especially in view of the fact that two or three weeks must elapse before the biological test on the guinea-pig can give its verdict as to the presence or not of tubercle bacilli in a milk sample under test.

"It is during those few weeks that the unscrupulous milk producer (dairyman) could personally apply the test and remove the reactor or reactors prior to the arrival of the officer of the local authority in charge of the dairy, and dispose of them, leaving no trace as to their whereabouts, and so defeating the main section of the Act.

"Veterinarians consider that the control of tuberculin is the keystone to the whole edifice of the Act, and by controlling this diagnostic agent you will control one of the most dangerous and frequent sources of contamination to which milk is subject.

"The campaign for the procuring of a grade A milk supply has been in operation for some considerable time, and over the greater portion of Great Britain; and it has been sustained and advanced by the medical, veterinary and agricultural bodies throughout the country.

"It is right to say that ere long the demand for a better cleaner, and grade A type of milk will be an accomplished fact, and the consumer intends to have it.

"For this reason it behoves us to assist in every way possible to fight the forces which will try to disintegrate the ideals which the authorities are attempting to attain in the Milk and Dairies Act, 1922.

"It is believed that if you control tuberculin, you will have proceeded far in controlling milk infected with tubercle bacilli."

State Governor's Tribute to M.R.C.V.S.

For some months the *New Orleans Item* canvassed the State with a view of finding out just "who's who" in Louisiana, both living and dead. In the vote taken two Bâton Rouge citizens were honoured, Col. T. D. Boyd and Dr. W. H. Dalrymple. Governor Parker, who was generally selected as the most renowned living son of Louisiana, in his selection of the five greatest living men of the State named Dr. Dalrymple, M.R.C.V.S., as one of the five.

If the vote was taken only among Bâton Rougeans who have known Dr. Dalrymple all of his life, we have no hesitation in stating that Governor Parker's selection would be unanimously endorsed.

We do not know of any man who has worked more zealously for the good of others than has Dr. Dalrymple. His life has not been one of getting, but of giving.—*Bâton Rouge Sunday News.*

The Veterinary Record.

24th February, 1923.

THE MINISTRY OF AGRICULTURE AND PROPRIETARY MEDICINES.

A number of communications have been received from members of the Association with regard to a leaflet issued by the Ministry of Agriculture to owners of swine, in the distribution of which veterinary inspectors have been requested to assist.

The complaint made is with reference to an advertisement appearing on the back page of the leaflet, advertising food for swine, also directing attention to remedies for pigs, designed to cure all ills.

It seems to us that this is about the worst instance of bad taste that could possibly have been perpetrated by any official body, and we would strongly advise all members of the profession into whose hands the leaflet should come to promptly place it in the waste paper basket or consign it to the flames.

The Ministry of Agriculture is continually asking for more veterinary surgeons for its staff, and is making use of the assistance of the general practitioner in carrying out its onerous duties. We can hardly conceive that the matter complained of can have been brought to the notice of the veterinary staff before the offending leaflet was issued. They certainly could not have reconciled their professional *amour propre* with such a proceeding.

An explanation is due to members of the profession. To ask them to distribute advertisements for proprietary medicines for animals to which they themselves would reasonably have been called is, to say the least of it, the essence of bad taste.

We have been given to understand, however, that the leaflet has been withdrawn from circulation, and we sincerely hope such a *faux pas* will not recur.

Professor Share Jones, of the Veterinary Department of the University of Liverpool, emphasises the need in this country for a self-contained veterinary department under each health authority, which would execute rigid examinations of live animals as well as of dead meat. It should not be left, as is the case in many areas, to some accidental circumstance, such as the report of a customer, or the butcher, or the chance visit of a sanitary inspector, to discover the presence of disease.

The famous Irish-bred Thoroughbred stallion The Tetrarch holds the unique record of being the only sire now standing in England or Ireland at a fee of 500 gs.

Clinical Report.

The Editor will be glad to receive from members and others contributions to this column of reports of interesting cases

Splenic Hypertrophy in a Bull.

By D. S. Rabagliati, O.B.E., B.Sc., M.R.C.V.S., Major, late R.A.V.C. (Director Serum Institute, Ministry of Agriculture, Egypt).

The following note may be of interest to show to what enormous proportions the spleen may be enlarged without appreciably interfering with the general health of the subject.

Subject.—An Egyptian bull, aged about ten years, and used for the production of serum.

History.—The bull had been purchased for the Egyptian Government Serum Institute, Cairo, in July, 1919, for the purpose of anti-rinderpest serum production. On admission to the Institute he was doubly inoculated with virulent rinderpest blood and anti-rinderpest serum in the usual way. No reaction resulted. Between July 7th, 1919, and May 16th, 1922, he received eighteen injections of four litres each of virulent blood for purpose of hyper-immunisation (two being given subcutaneously and sixteen intramuscularly), and was bled from the jugular vein 64 times, about four litres of blood being taken on each occasion. The usual system adopted at this Institute is to bleed each serum-producing bull four times at intervals of a fortnight each, and then to re-fortify by massive injections of virulent blood, approximately once every two months. During this period the bull was never really ill, only being admitted to the sick lines once for a transient attack of diarrhœa, but during August, September and October, 1919, he had an irregular temperature chart suggestive of Texas fever, but as he showed no clinical symptoms of this disease, his blood was unfortunately not examined.

This animal was used very frequently to pull a trolley on a small Decauville railway, by which manure is removed. As he happened to be a good worker, he was chosen for work by the men in preference to many others, and so probably did more than his fair share of the work.

On May 16th, 1922, he was selected as one of a group of cattle for the production of septicæmia hæmorrhagica serum. During this process he was injected with three doses of septicæmia hæmorrhagica serum and thirteen injections of a pure culture of the causal organism of this disease, given in emulsion. Six of these injections consisted of 100 c.c. of the emulsion as a single dose. The bull was bled nine times to produce septicæmia hæmorrhagica serum, giving forty-two litres of blood in all. During the whole period under review the temperature was taken twice daily, and with the exceptions already stated, showed nothing remarkable. Although the bull had never been really ill, he never put on flesh to quite the same extent as the other cattle, and had a dull rough coat despite regular grooming.

As with other cattle at this Institute, he was tested with tuberculin from time to time, but always proved negative to the test.

On November 15th, 1922, he was bled to death for serum, as he was no longer required for serum production. The weight of the bull before slaughter was 502 kilos (approximately 9 cwts.).

Post-mortem.—The dressed carcase (not including offal) weighed 52·6 per cent. of the live weight, which percentage was a little less than the average of similar cattle slaughtered here. No abnormality was present, with the exception of the spleen, which was enormous, and whose dimensions were :—

Length—103 centimetres (about 40·5 inches).
Breadth—38 centimetres (about 15 inches).
Thickness—13 centimetres (about 4·25 inches).
Weight—13·75 kilos (about 30·25 lbs.).

The photograph shows this spleen alongside a normal one.

Consistency.—The consistency of this organ was much softer than that of normal splenic tissue (though not to anything like the same extent as in a case of anthrax), and its colour was darker.

It may be mentioned that the average spleen of an Egyptian ox does not exceed 2 lbs. in weight, so that in this case it was more than fifteen times the normal size.

Histological Examination.—The following was revealed :—

(1) There was an enormous amount of blood present, suggestive of a cavernous angioma.

(2) The nuclei of the cells stained faintly but diffusely with hæmotoxylin, appearing very pale, their nuclear reticulum not being well marked.

(3) The tissue contained a large quantity of pigments, both free and in the cells, presumably derived from the blood.

Causation.—It has always been noticed in this Institute that cattle which have been used for rinderpest serum production for any length of time have considerable splenic enlargement when slaughtered, though to nothing like the same extent as the case under review.

Another very large spleen which the writer can remember in a similar bull measured 91·5 centimetres long (36 inches), 15 centimetres (6 inches) broad, and scaled 6·25 kilos (13·75 lbs.); not half the weight of the one described, as it was very much thinner. The size of this spleen, however, was partly due to an excess of inflammatory tissue due to the penetration of a foreign body from the reticulum.

Owing to our very limited knowledge of the normal functions of the spleen, it is difficult to state the cause of the constant splenic enlargement in the serum cattle ; but the following appear to be factors :—

(1) Previous attacks of piroplasmosis, especially of Texas fever (*Babesia bigeminum*).

(2) The constant efforts of the spleen to regulate the supply of blood in the body which is upset by the frequent bleedings. This appears to the writer to be the chief cause, and is somewhat analogous to the hypertrophy of a muscle due to hard work.

(3) The consensus of opinion is that in rinderpest the virus is chiefly present in the leucocytes. The question thus arises : Is this constant enlargement in any way due to the frequent massive injections of rinderpest blood acting in some specific way on the leucocyte-forming function of the spleen ?

The fact that the bull described was also used to produce anti-septicæmia hæmorrhagica serum does not appear to have anything to do with the huge proportions of his spleen, as nothing similar was found in other cattle used for this purpose.

Royal Society of Medicine.

The following members of the Royal Society of Medicine have been appointed officers of the section of Comparative Pathology :—

President.—Hugh Maclean, M.D., D.Sc., M.R.C.P., 2 Elm Park Gardens, Chelsea, S.W.

Vice-Presidents.—Professor Frederick Hobday, C.M.G., F.R.C.V.S., F.R.S.E., 6 Berkeley Gardens, Kensington, W. Arthur Frederick Bernard Shaw, M.D., F.R.C.P.I., Pathological Department, College of Medicine, Newcastle-on-Tyne. Professor George Haswell Wilson, M.B., Ch.B., Department of Pathology, University, Birmingham.

Hon. Secretaries.—John Alex. Douglas Radcliffe, M.B., Ch.B., 30 South Parade, Southsea. R. L. Mackenzie Wallis, M.D., 105 Harley Street, W.1.

Association Reports.

The North Midland Veterinary Association.

A meeting of this Association was held at the King's Head Hotel, Change Alley, Sheffield, on Tuesday, December 5th, 1922. The President, Mr. T. Bowett, M.R.C.V.S., Worksop, presided, and the following members were present:—Messrs. T. C. Fletcher, S. E. Sampson, S. H. Nixon, H. Thompson, H. L. Torrance, and J. S. Lloyd (*Hon. Secretary*), of Sheffield; E. Marrison, Bakewell; J. A. Hodgman, E. Secker Smith and M. Robinson, Barnsley; W. Collinson, South Anston; R. Hudson, Retford; E. F. Angler, Doncaster; and G. Green, Rotherham; and the following visitors:—Captain F. T. Smyth, Sheffield; H. H. King, Derby; H. Briggs, Hucknall; and F. C. Scott, Pontefract.

The minutes of the last meeting having been printed and published, were taken as read and adopted. Apologies for inability to be present were received from Major Abson, J. H. Yates, Sheffield; Captain E. G. Johnson, Beighton; T. Ludlow, Mansfield; Frank Alton, Tutbury; F. T. Prince, Ashbourne; and J. Lindsey, Dumfries.

The following report of the Council meeting, held October 24th, 1922, was read by the Honorary Secretary, and on the motion of Mr. T. C. Fletcher, seconded by Mr. R. Hudson, was adopted.

COUNCIL MEETING, HELD ON OCTOBER 24TH, 1922, AT No. 52 WHIRLOWDALE ROAD, SHEFFIELD.

Present: Messrs. T. Bowett (in the chair), R. Hudson, T. C. Fletcher, W. Murgatroyd, H. Thompson, N. Robinson, W. Collinson, S. E. Sampson, and the Hon. Secretary.

The minutes of the Council meeting held on July 18th, 1922, were read and confirmed.

Apologies for inability to be present were received from Messrs. Nixon and Hodgman.

Arising out of the correspondence the Council recommend that the sum of four guineas be paid to the Victoria Veterinary Benevolent Fund, being donations of two guineas for 1921 and 1922.

It was next agreed to recommend that the Secretary, and Major Abson be appointed representatives of the Association on the Council of the National Veterinary Medical Association. The Secretary was instructed to continue his correspondence with Mr. Sumner, President of the Royal College of Veterinary Surgeons, in regard to his attending a subsequent meeting of the Association and giving an address. It was agreed that the Secretary should write to the Secretary of the Derbyshire Veterinary Association, suggesting that a combined meeting be held in Sheffield for the purpose of discussing a paper to be read by Mr. W. Collinson on "Bursal Injection." The next meeting of the Association was fixed for December 5th, at 3 p.m., at the King's Head Hotel, Sheffield. Provided the invitation was accepted by the Derbyshire Association, it was agreed to entertain the visitors to tea. Mr. S. E. Sampson was invited and undertook to open the discussion on Mr. Collinson's paper.

The Council then considered the election of officers of the Association for 1923, and it was recommended that the President be Mr. S. E. Sampson; Past-President, Mr. Bowett; Vice-Presidents, Messrs. W. Murgatroyd and H. L. Torrance. The Honorary Secretary and Hon. Treasurer to be re-elected. Auditors, Messrs. T. C. Fletcher and J. H. Yates; the Council, the above Officers (*ex-officio*), with Messrs. R. Hudson, W. Collinson, M. Robinson, C. S. Smith, S. H. Nixon, and G. Green.

It was recommended that the sum of one guinea be paid to S. Wales for his services in reporting the meetings of the Association. It was also recommended that 1s. per paid up member be paid to the Treasurer, Professor Wooldridge, of the National Veterinary Medical Association.

The accounts for 1921, which had not been audited owing to the illness of the Hon. Secretary, were then considered by the Auditors and signed. The Hon. Secretary and Hon. Treasurer were instructed to bring forward accounts for this year, so that they can be audited and made up in the balance sheet for 1922.

A vote of thanks to the President terminated the meeting.

(*Signed*) THOS. BOWETT.

ELECTION OF OFFICERS.

The following were the officers elected for the year 1923:—*President*, Mr. S. E. Sampson; *Past President*, Mr. Bowett; *Vice-Presidents*, Messrs. W. Murgatroyd and H. L. Torrance; the *Hon. Secretary* and *Hon. Treasurer* were re-elected; *Auditors*, Messrs. T. C. Fletcher and J. H. Yates; the *Council*, the above officers (*ex-officio*), with Messrs. R. Hudson, W. Collinson, M. Robinson, C. S. Smith, S. H. Nixon, and G. Green.

The Hon. Treasurer was authorised to pay the affiliation fees of paid members of the Association to the Secretary of the National Veterinary Medical Association. He also was instructed to pay a donation of two guineas for each of the years 1921 and 1922 to the Victoria Veterinary Benevolent Fund. On the motion of Mr. SAMPSON, seconded by Mr. HODGMAN, Mr. F. C. Scott, of Pontefract, was nominated for election as a member of the Association.

The HON. SECRETARY showed specimens of three hair balls which had been taken from the stomach of a cow, and part of a metal tube, also taken from the stomach of a fat beast when slaughtered. The tube, which was 26in. long, had evidently been broken whilst being used as a probang and swallowed by the animal. From its appearance it had been in the stomach for some time, and apparently had caused no injury.

Mr. FLETCHER called to mind a case which had occurred in the practice of his father many years ago, when Mr. Fletcher, senior, was in the habit of using a probang with a joint in the centre. The two parts became unfastened, with the result that the portion entering the stomach could not be recovered. The animal was in good condition and was slaughtered. Mr. Fletcher showed a cast 30ft. long of the bowel of a cow. The history of the case was that late at night the animal was showing colic pains and stoppage,

which were treated in the ordinary way. The next morning the animal was attacked with diarrhœa, and the farmer found the cast amongst the dung.

Mr. SAMPSON related a case which he operated upon for umbilical hernia. The animal was cast, the operation being performed by skewering. A few days afterwards there was marked atrophy of the *longissimus dorsi* muscle. It was now slowly recovering.

Mr. SCOTT, of Pontefract, mentioned that he had seen a somewhat similar condition in a cow three weeks after service. A marked feature was inability to raise the tail. The animal upon being slaughtered was found to be affected with fracture of the sacrum.

INJECTION FOR BURSAL ENLARGEMENTS.

Mr. W. COLLINSON, Anston, then read the following paper on "Injection for Bursal Enlargements":—

I have been much exercised in my mind as to the best way to bring these few notes on injection for bursal enlargements to your notice, and have decided to describe the operation, familiar to most of you I believe. I shall also read to you some reports of cases treated by fellow practitioners, who have kindly sent me notes on cases treated and consented to their names being mentioned with the same. I hope these cases will be sufficient to promote a good discussion, and at the same time prove interesting to you. I have selected the cases from a great many with this object in view.

The treatment has been used by me for the past 14 years with excellent results, and I shall certainly continue until I find something better.

We all know what a tedious process firing, blistering and absorbent treatment is and the poor results obtained; this treatment is, in my opinion, much simpler and the results infinitely better.

The points in its favour are—(1) The ease with which the operation can be carried out; (2) you are getting right at the seat of the trouble; (3) you do not get any blemishing; (4) if treatment is not successful, you can follow up with any other you may wish.

The only instrument required is a 10c.c. hypodermic syringe, with sharp needle one inch long. I prefer an all metal one, as there is less risk of breakage, both in operating and sterilising. The whole should be sterilised by boiling before use. Needles should be kept sharp by an occasional rub on an oil stone. An animal does not resent the use of a sharp needle so much as a blunt one. If the seat of operation is covered by much hair, it should be removed with the clipping machines; in a fine-coated animal this is not necessary. In the majority of cases a twitch is the only restraint necessary, as well as, perhaps, a fore-leg held or strapped up. You sometimes come across a bad one, when stocks or hobbles are necessary. This was my luck when demonstrating at the National at Chester. Quite 85 per cent. can be done standing.

Method of Operation.—Place the animal against a wall, side to be operated on nearest to you. You may also operate in an ordinary standing position, by standing in the next stall, and using the boskin as some protection. Have the animal pushed far enough back in the standing to be accessible, and an assistant on other side pushing him towards you.

Choose the most prominent point of the swelling, and apply a drop of pure carbolic acid, making sure that it gets to the skin. This acts as a slight local anæsthetic as well as rendering the seat of puncture sterile. Plunge the needle through this spot right into the sac, let what synovia will run away under its own pressure, afterwards assisted by the pressure of the fingers on the swelling. Have a piece of wire ready to push down the needle, should the flow of synovia suddenly stop before you have sufficiently drained the sac. In some few cases you do not get a flow of synovia; in these inject just the same. I find that you get equally good results. Of course first make quite sure you are right into the bursa; you can usually tell this by working the point of needle about and feeling if it is free.

Withdraw the needle after having injected the quantity decided upon; rub the seat of puncture with a finger; apply a little more antiseptic.

Have the animal exercised for half-an-hour after injecting a joint; for other bursæ well hand rub to diffuse the solution.

Wash the syringe out with equal parts ether meth. and ol. olivæ, plus 10 per cent. acid. carbol. pur. This prevents the piston gumming and renders the syringe antiseptic. Animals are better turned out where possible; if not, they should receive regular exercise. Working horses can be put back to work when all lameness has subsided. I find you get better results, especially in bursæ not connected with joints, the swelling subsiding more quickly and the part returning to normal size.

In young and debilitated animals it is not advisable to inject more than one joint at a time, as there is considerable pain and swelling. In the majority of cases the pain persists for from one to three weeks. The swelling subsides and the enlargement gradually disappears in from two to four months. In cases requiring re-injection, allow at least three months before repeating the dose, the swelling sometimes disappearing quite suddenly towards the end of this period.

The amount of solution injected must rest with the operator, and varies with the size of the swelling.

DOSAGE.

Bog spavin, 10—30 c.c.'s.; thoropin, 10—50 c.c.'s

Bog and thoropin combined, inject 10 c.c.'s. into bog and 10 c.c.'s. into each side of thoropin; 30 c.c.'s. in all.

Capped hock, 10—20 c.c.'s.

Stifle lameness, 10—40 c.c.'s.; wind galls, 2—10 c.c.'s.

Enlarged knees in cattle, 20—50 c.c.'s.; these are best done at grass time. There is a wide range in the above dosage; the big doses are for some of those enormous swellings one gets in stifles, thoropins and

knees. I have operated on animals of all ages, from foals three months old to animals 14 years old. The doses should be considerably modified in young foals, 10 c.c.'s. being a maximum.

I now use this treatment on all bursal enlargements, and find if not successful, it is not much use trying anything else.

It saves time, and you are sure the treatment has been properly applied, having done it yourself. This does not always follow where blisters and absorbents are left for application. You need not, unless you care to, see the animal again for three months, and then with every prospect of a complete recovery. In working horses the animal need not be kept from work after lameness has subsided; this is an advantage to the farmer at a busy time.

I now propose to read you some extracts from some of the letters I have received from fellow practitioners who have used the solution, and have kindly sent me their views on the treatment, as well as reports of cases treated. You will note all have not proved successful, but there is a very good average of complete cures and improvements.

I may here state that the results correspond with my own to a great extent. I should put the average of successes in the following order:—

Thoropin, 90 per cent.; bog spavin, 60 per cent.

Stifle lameness, if taken in young animals, 70 per cent.

Other bursæ, 70 per cent.

James Lindsey, M.R.C.V.S., Dumfries.

Letter dated March 4th, 1922.—I am satisfied with number of successful cases; of course it has not been successful in every one. I have done a very large number over the county. *Re* bog spavin; a few cases require injecting twice at a period of six months and no more. I have had a patient lie for three days after injection and then get up, and that was a perfectly successful case—bog spavin and thoropin. In my opinion it is of no use in stifles of old standing, but absolutely the best cure I ever had was in a yearling filly with two very bad stifles. She was useless, lame in both legs and going on the toe. I injected 15 c.c.'s. into each. One stifle was cured after the first injection, the other required a second dose. My experience has been 65 per cent. recoveries, and that is good enough. No man can expect to have a success every time, especially if the disease has been located since the animal was a yearling, and nothing done until three or four years old. I have found slight thickening of the skin, and the hair grows much stronger after the operation. Has this been your experience?

Mr. COLLINSON: Yes, I have noticed it, but there is nothing unsightly about it, and does not occur in all cases.

Letter dated November 19th, 1922.—My experience is that thoropins are much more easily removed than bog spavins; the latter generally require to be injected twice.

Lately I have been very successful in treating enlarged stifles in yearlings; in two and three-year-olds I have had bad results. The younger you commence treatment the better. I consider one may expect 65 per cent. of successes if you get at them soon enough.

John Coldwell, M.R.C.V.S., Spilsby, Lincs.

Stifle—Two-year-old colt, 1921. Not lame, but stifle half the size of a cocoanut. Injected on April 13th, got considerable swelling and lameness for some time, injected again September 20th; enlargement still persists—February 20th, 1922.

May 14th, 1921—Thoropin very large on inside of hock, not much swelling on the outside. Injected on May 14th; I got a considerable reaction. At end of June I went to see him again, and to my surprise the swelling was much bigger. This was a kennel horse, and as he was wanted soon, I put him under treatment. I have used this treatment successfully for 25 years.

T. O. Richardson, F.R.C.V.S., Tarporley, Cheshire.

Hunter—Thoropin after injection; the enlargement became hard, but not removed.

Shire Filly—Serous enlargement below stifle; cured.

The cases you operated on at Chester belong to clients of mine, and I am pleased to inform you they have improved tremendously. The shire filly's hock is practically normal, and the hunter's thoropin almost so.

W. A. Campbell, M.R.C.V.S., Boroughbridge, Yorks.

October 12th, 1920.—I saw you operate at Sheffield, and tried several cases with very good results. One "screw," 2 years old, wrong in both stifles has made a useful working horse. November 11th, 1922.—In the case of stifle lameness in young horses my experience is that in the case of the swollen boggy stifle, even where the patella is badly luxated, the treatment is of great value, but in the drawn up, atrophied joints it seems to have no effect at all. Of course it is not indicated in this sort of case, but one likes to do something. Within the last two months I have done two horses with big sprung hocks; both are working sound, and that is all their owners wanted.

W. Marshall, M.R.C.V.S., Huntly, Aberdeenshire.

November 21st, 1921.—Four-year-old Clydesdale gelding, with the largest hocks I ever saw, and going lame. I am now pleased to report that the animal is now fit for work, and his hocks almost normal. This animal had been in this condition for over two years, and had been repeatedly blistered, with no result. March 2nd, 1922.—Horse has been doing farm work for five months. I am certain ordinary treatment would have had no effect upon such a hock.

A large number of other letters were read by the lecturer, including one from

O. Trevor Williams, M.R.C.V.S., Llangefni, Anglesea, who said:—I have used the injection you sent me, and have had very successful results in all the cases I tried. The last but one was a very big distension of the sheath of the flexor pedis perforans, which had been blistered several times. I had to use a large

needle, as the contents were thick, like pus. This was done four months ago. On the 14th November I called to see the mare, and to my surprise could not detect the operated leg.

DISCUSSION.

Mr. SAMPSON: In opening a discussion on a paper like the one we have just heard, one is placed in rather an awkward position, seeing that the greater portion of the paper is taken up with actual facts which have taken place, and which one cannot readily controvert. However, I think you will all agree with me in extending to the essayist, not only from our Society, but from the profession at large, the most hearty congratulations on the very able manner which the treatment of bursal enlargements has been so well placed before us this afternoon. When one comes to look back on the numerous failures which have resulted from many of our previous methods of treatment, it is highly satisfactory to note that by the simple injection of a liquid into a joint or bursa, we can overcome the condition present and bring about a recovery. Doubtless you are aware that the injection of a joint is not a new procedure. I well remember seeing a boggy hock being injected 25 years ago, but not with the satisfactory results which we see to-day, and recollect a practitioner in the North of England who repeatedly injected joints at least 15 years ago.

I notice the essayist has given us no histological account of synovial membranes, nor is any reference made to their condition when treatment is required, or the action the injected liquid has upon those membranes. I think these might have been very usefully included in the fore part of the paper, to our mutual advantage. In the instructions given as to the mode of operating, there are two very important factors omitted as to special care being taken in injecting a stifle joint—(*a*) Make your puncture *between* and not through straight ligaments. I find between the inner and middle one to be as good a site as any, the skin being thinner, and so rendering it easier to direct the course of the needle; (*b*) avoid wounding the articular surface of the joint, usually the trochlea of the femur, with the point of the needle. It has occurred to me whether or not some of the failures in stifle cases which are recorded may be due to this fact, rather than the failure of the remedy. The other portions of the instruction are given in a very concise form, and demand from the operator very careful and rigid observation, and even then one gets at times untoward results, as shown by the suppuration which I got in a case of a Shire filly with an enlarged hock, although I had taken every precaution against infection.

The imposing list of cases quoted gives us some very striking testimony of the benefits to be derived from the treatment, and I had quite expected the writer to have included a long list of cases which he has come across in the last fourteen years, but I expect, Sir, it is that natural bashfulness characteristic of the Veterinary Profession, which has prevented us from having the advantages of the record of his cases.

The letter from Mr. J. Lindsey, of Dumfries, sums up, admirably to my view, the situation, and he, like many more of us, has not had success in every case; and this leads one to the thought of how we are to eliminate these failures. I have already indicated one possible cause of failure, *i.e.*, wounding of the articular cartilage by the needle. Another, by the judicious selection of cases undertaken.

It is only fair when reviewing the cases quoted to ask oneself, how many of these would have recovered spontaneously and how many would have recovered by other treatments—such as point firing, or the treatment which Mr. Coldwell, of Spilsby, has used for 25 years (but of what it consists no indication is given)? A prize-winning foal, bought last autumn, developed, during the winter, very bad hocks—bog spavin and thoropin, with no lameness. I advised that after recovery from castration this spring, the hocks should be injected, but other counsels prevailed, and the colt was turned away on some hilly limestone land for the summer without any treatment, and to my surprise this autumn the colt has come home with his hocks as correct as when he was bought as a foal. This spring I injected a hunter's hock, which had been point and line fired two or three times with no improvement. In addition to the distension by synovia, there was a fair amount of bony exostosis all round the hock. About a month ago the synovial distension had gone, but there is a considerable exostosis and anchylosis in the hock. Is it not fair to surmise that, had this hock been injected before the exostosis had appeared, we should have had a sound hock at the present time?

There are many more points one might have raised, but I leave them to the members, and hope they will reward the essayist for his valued efforts to veterinary science by giving his paper a good and fearless discussion.

Mr. HUDSON: I must confess that my experience of Mr. Collinson's injection has been rather disappointing, and it is difficult for me to say what cases are most suited to its application.

One of the first cases I tried with it did very well. It was a case of double bog spavin and thoropin, though not a bad case, The animal was a working farm gelding, and, after resting a few days, was put to work as usual.

The next case was a very bad thoropin in a weight-carrying hunter. He was injected at the end of the season and turned out to grass. He made no improvement.

No. 3 was a case of double bog spavin in a 7—9 months old foal. I injected both hocks, and for a long time he showed no improvement. I afterwards needle fired one hock. (This foal was the one I needle fired at our meeting at Retford). Many months after the injected hock had cleared and the fired hock improved.

No. 4 was a very bad bog spavin and thoropin in a yearling colt. After a talk with Mr. Collinson, I tried more injection on this colt, and he went a hopeless cripple from arthritis.

XUM

(Mr. Hudson quoted three other cases which showed no improvement after injection.)

I have not had an opportunity of trying the treatment many times on a working animal, only in the first case mentioned, and I think one would get more successes if used when the animals were at work. Failing that, we might have the animals moved to poorer pastures. I find that good land has a tendency to bring on bog spavin and thoropin, perhaps by increasing weight, or, perhaps, a gross condition may give rise to greater susceptibility to joint infection.

Mr. FLETCHER said he had noticed that there were different secretions in different effusions, and he was in difficulty as to what character of joint to inject and what to leave alone. The composition of the injection was a secret, and he thought justifiably so. He had found that the treatment of the point of injection by carbolic acid beneficial, it acting as a local anæsthetic. Extraction of the contents of a cavity was not always satisfactory, and he asked the essayist had the entrance of air anything to do with bad results? He thought aspiration of the cavity might be useful. What was the best point of the swelling to inject? What quantity of the fluid would cover the whole of the cavity? If the treatment was more successful than firing, etc., then Mr. Collinson had done good in bringing it before the profession. Did the essayist think that the injection would be useful in enlarged cows' knees, which, if not exactly injurious, were unsightly? He had stopped opening these swellings due to septic infection; the thickening often left was even worse than the disease.

Mr. MARRISON stated he had tried the injection as an experiment on an otherwise worthless animal. Both hocks were injected; one did well, the other did not. He had injected cases of big knees in cattle, but without any good result. His method of treatment now was to open the top and the bottom of the swelling, seton in between, afterwards dressing regularly with antiseptics.

Mr. BRIGGS, of Hucknall, stated he had injected a bog spavin with adrenalin and decolorised iodine, two drachms altogether, combined with extract of belladonna, afterwards applying an elastic bandage, repeating both the adrenalin and the bandage; the result being satisfactory.

Mr. S. H. NIXON had had two cases at one place. One was a Shire gelding 7 years old, with a thick fluid on the stifle joint. He injected 15 c.c., and the joint did well. The other case was a capped elbow, with a thickening over and around it. Blistering caused an increase, aspiration did no good, but 10 c.c. of the injection produced suppuration, followed by the extraction of a piece of copper band; the latter apparently had entered the elbow, and had been causing the trouble without being suspected.

Mr. SAMPSON intervened to say that he had a case where the synovial cartilage appeared to be implicated. After injection the horse was sound at the walk, but the joint was still enlarged.

Mr. KING (Derby) reminded the members that the big knees seen in cows were due to repeated bruising, and were not really an enlarged bursa joint or tendinous sheath. Opening of the latter was often risky; opening cows' big knees was not so.

Mr. HUDSON asked Mr. Collinson if he would recommend renewed injection, and, if so, how often? Would he recommend shaving the point of injection? How could Mr. Sampson account for suppuration of the hock joint? He often opened cows' big knees successfully. Blood and lymph clots were often found in them, and in such cases injection would be useless. Before injecting iodine tincture into a hock joint he would want to know the strength.

Mr. BOWETT tried one case with two injections, but had no good result. Did the essayist think a stronger injection would be better?

THE REPLY.

Mr. COLLINSON replied that he had tried decolorised iodine, but thought his injection was superior. He did not think puncture of the cartilage of the joint did any harm. He remembered good results in chronic cases, particularly a stifle case, in which after an injection of 15 c.c. the case did well, and the animal worked and bred for nine years. The cases should be selected. It was not fair to take up bad cases for trial. He thought young animals did better than old ones, or cases with flocculant lymph, enlarged joints or bursæ due to severe sprains. Many boggy hocks recovered spontaneously, but did not allow an entry in the day book. If treated, payment would be expected. Synovial cartilages in human beings were removed, but this was not done in veterinary practice. He was glad Mr. Hudson's case, after firing, recovered. Exercise or work helped recovery. The classes of animals best suited for treatment were in the following order: Hunters or light horses; Clydesdales, Shires—*i.e.*, clean-legged horses were the best. He agreed it would be a good idea to take note of the secretion in the joints, which might help to decide whether to inject or not. Cases of stifle lameness, such as very straight legs, were not good subjects. Alarming symptoms often arose, and must be expected when injecting a joint. They usually passed off within three weeks. Most of the members present knew the composition of the injection. He could not see his way to make it public, as laymen were now asking for the injection, but he refused to supply it to other than veterinary surgeons. Entrance of air through the needle was not likely, as pressure of the joint fluid blocked the needle. Enlarged knees of cows were best treated when turning out to grass, fluid being drawn out by a small trochar and cannula. Good results often followed the injection of 50 c.c. after all the fluid had been withdrawn, the injection being followed by massage for at least half-an-hour, so as to allow the injection to get immediately to all parts of the cavity surface. In his opinion the fluid acted as an astringent, and, possibly, the secretion became absorbed, leaving a wrinkled skin. Regarding repeated injections, he had injected the same animal three times in a year, and had done so in other cases at intervals of three months. He did not recommend injection at shorter intervals.

Shaving of the hock joints facilitated the use of local anæsthetics. Boggy hocks gave most pain at the time of injection. In bad cases it was better to use a larger quantity rather than a stronger fluid. Massage always helped injection. The fluid kept better in dark coloured bottles. He was in favour of always operating standing, as he thought better results followed.

The HONORARY SECRETARY moved that the best thanks of the meeting be given to the essayist, and remarked that Mr. Collinson helped the Secretary by volunteering to give a paper instead of having to be pressed, as was so often the case.

Mr. ROBINSON moved a vote of thanks to the President for presiding during the last two years. He had made an excellent President, both from a professional and social point of view. His hospitality had been much appreciated.

Mr. T. C. FLETCHER seconded, and stated that, in the vote of thanks, Mrs. Bowett should be included.

Mr. BOWETT replied on behalf of himself and his wife. He thought the remarks of the mover and seconder were too kind and flattering. He wished he could have done more. He regretted that, owing to the illness of the Hon. Secretary, the full number of meetings had not been held during last year. He hoped the Secretary's health would improve, and that the meetings of the Association in future would be beneficial.

J. S. LLOYD, *Hon. Secretary.*

Notes and News.

The Editor will be glad to receive items of professional interest in these columns.

National Veterinary Medical Association.

FORTHCOMING EVENTS.

February 28th.—Meeting of the West of Scotland Division, 83 Buccleuch Street, Glasgow, at 3 p.m.
March 1st.—Meeting of the Central Veterinary Society, 10 Red Lion Square, W.C., at 6 p.m.

FOOT-AND-MOUTH DISEASE IN GLOUCESTERSHIRE.

The existence of foot-and-mouth disease was confirmed on February 10th on premises near Northleach, Gloucestershire. An order was accordingly issued by the Ministry of Agriculture on that day prohibiting the movement of animals in an area within a radius of approximately fifteen miles of the infected premises.

PROFESSOR PERRONCITO.

The Committee formed to promote the celebration of the jubilee of Professor Perroncito as a teacher at the University of Turin is now engaged in preparing the programme of a meeting to be held in the early spring, which will be attended by representatives of all branches of medical and zoological science, in order to testify their appreciation of Professor Perroncito's life work. There is to be established an "Edward Perroncito Foundation" for the purpose of rewarding and encouraging the study of those sciences to which the great parasitologist has devoted himself with so much success.

In order that the object may be more securely attained, the Committee makes a final appeal to all those who appreciate the great work of Prof. Perroncito, inviting them to send their subscriptions addressed "Al. Segretario del Comitato, via Nizza, 52, Turin, Italy."—[*Gazetta del Popolo*, 12th February, 1923.]

The Editor of the *Veterinary Record* will be pleased to receive and forward any subscriptions which our readers may wish to contribute and will acknowledge them in these columns.

PERSONAL.

Marriage.—On 5th February, at the Church of the Sacred Heart, Kilburn, London, Captain G. A. Kelly, R.A.V.C., to Sydney Russell, youngest daughter of Richard and Mrs. Stanley, Bethlem, Athlone, Ireland.

ERRATA.

The Hon. Secretary of the Central Veterinary Society writes to point out that the following errors occur on page 104 of the *Veterinary Record* dated 10th February :—

(1) "Quinine sulph. ℥i." should be "Quinine sulph. ℈i."
(2) "Quinine acid hydrobromide ℥i" should be "Quinine acid hydrobromide ℈i."
(3) A. J. Williams, Lt.-Col. A.C.E., should be A. J. Williams, Lt.-Col. A.V.C.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

The General Practitioner and Research.

TO THE EDITOR OF THE "VETERINARY RECORD."

Sir,—I should like this subject to be thoroughly thrashed out in the pages of *The Veterinary Record*.

I do not agree with all the arguments contained in your editorial on this matter. One sentence, especially, seems to me to indicate the assumption of a very *laissez-faire* attitude in regard to research. The sentence runs thus :—"If the local veterinary surgeon is willing to do the work, he must realise that he is working in the interests of science and cannot expect adequate monetary reward for his services."

The days when a veterinary surgeon could be distinguished by his obsequiousness and Cinderella-like attitude should have passed for ever.

The service of science, by whomsoever rendered, ought to be well paid for. There is plenty of evidence to show that, if properly approached, State authorities and private individuals are quite prepared to give commensurate remuneration for it. The bad old days, when the scientist worked in a garret and died a pauper, have lost their prestige. In the very issue in which your editorial appears there is an announcement of an offer of £30,000 to Cambridge University to establish an Institute of Animal Pathology. It is sound and right organisation in con-

nection with research into animal diseases that is wanted, together with adequate propaganda work; then the financial aspect will right itself.

So long as the filling up of intricate forms is considered more important than are the lessons of experience and technical worth, we shall fail to advance beyond a never-widening circle. The organisation that deals with animal diseases in America comprises the United States Bureau of Animal Industry, the State livestock sanitary officials, the livestock owners of the nation, and other persons interested in the livestock industry. The work is well organised, and as far back as 1920 there were 15 farms attached to the Bureau of Animal Industry at Washington where hog cholera could be studied under field conditions. This is a sample of the way in which research into animal diseases should be initiated and conducted, and the N.V.M.A. might do worse than send a deputation over to America to study the way in which they act there. If we are always content to remain at the parsimonious stage, we shall never secure that goodwill of all parties concerned that is necessary for real advancement and the acquirement of sound scientific knowledge.

We seem to be slow in this country in adopting even tried and trusted methods in dealing with animal disease. In 1920 the ophthalmic test for the detection of tuberculosis was officially recognised in America, and at the same time the intradermic method was instituted. Since that period 2,807,516 head of cattle have been tested by this method with good results. I wonder how many British cattle have had this procedure applied. The verdict in dealing with tuberculosis in America is that "for purposes of economy and practicability the combination of the intradermic and ophthalmic tests, if properly applied, *is more desirable than any other.*"

To return to my opening remark, I do hope that this matter will be well discussed by your readers. Its "pros." and "cons." are very important to us. We must wake up and awaken our friends if the profession is to advance or even hold its ground.—Yours truly, GLADSTONE MAYALL.

88 St. George's Road, Bolton,
February 10th, 1923.

Material for Distemper Research.

TO THE EDITOR OF THE VETERINARY RECORD,

Sir,—I shall be glad if you will allow me to make use of your columns to ask members of the profession if they will be kind enough to forward to me specimens taken from dogs that have succumbed to the virulent form of canine distemper.

As soon after death as possible blood should be taken from the heart with an aseptic syringe and placed in a bottle previously boiled. The cork should be sealed. Pus or discharge from the lungs or other organs should also be sealed. A short history of the case and the symptoms will also be appreciated.

Thanking you in anticipation of my request being granted, I am, Sir, faithfully yours,

R. F. WALL.

128 Queen's Road, Bayswater, London, W.2.

The Editor begs to acknowledge the receipt of the following:—

Report of the Mid-West and South Wales Veterinary Association's January meeting.

Bombay Presidency European Government Servants' Memorial to the Secretary of State for India.

Department of Agriculture, Punjab—Veterinary Bulletin, No. 9, of 1922.

Clinical report from Mr. W. Waters, Halstead.

Communication from Major Hugh P. Hogben.

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaughtered as diseased or exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange.* Outbreaks reported by the Local Authorities.	Parasitic Mange.* Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended 10th Feb., 1923	...	...	15	15	1	4	...	...	40	57	29	41	25
Corresponding Week in 1922	...	...	7	7	293	9769	...	...	46	61	27	30	14
1921	1	...	9	12	1	...	2	4	86	146	27	17	2
1920	...	...	16	28	2	273	2	2	158	277	16	41	12
Total for 6 weeks, 1923 ...	...	...	90	96	2	179	1	1	199	306	182	216	68
Corresponding period in 1922	...	...	60	65	592	19331	..	...	303	478	237	153	56
1921	11	1	92	113	22	2143	2	4	569	915	207	149	35
1920	2	...	59	78	26	1690	5	8	983	1836	156	264	94

NOTE.—The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

IRELAND.													
Week ended 10th Feb., 1923 ...			...	...	...	...	...	...	Outbreaks 6		4	6	47
Corresponding Week in 1922	...		...	...	...	...	...	...	2		8	8	33
1921	...		...	...	1	4	..	...	...		5	1	6
1920	...		...	...	...	...	...	...	1		9	...	...
Total for 6 weeks, 1923	...	...	...	...	...	...	...	...	20		29	28	144
Corresponding period in 1922			...	...	...	...	...	...	32		29	43	193
1921	...		...	...	2	39	...	...	14		64	6	43
1920	...		...	...	...	...	1	2	22		60	1	4

NOTE.—The figures for the current year are approximate only.